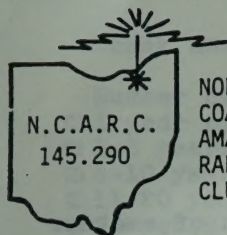


NORTH COAST COMMUNICATOR



NORTH
COAST
AMATEUR
RADIO
CLUB

N.C.A.R.C.
P.O. BOX 30529
PARMA, OHIO 44130

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Asst. Editors
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KD8EQ
Swap & Shop
NSETP
Sunshine
NSETP

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PAULINE KA8FOE
PETE W1BKZ
DICK KD8EQ
SHIRLEY KA8Y
DAVE KB8TT
TOM N8ETP
JEFF K8OJ
LEE WA8ERA
ED N8ERA

CODE PRACTICE
SUNDAY EVENINGS
8:00p.m. 145.29

INFORMAL NET
SUNDAY EVENINGS
9:00p.m. 145.29

The net includes:
"WESTLINK REPORT"
ARRL BULLETINS
N8LTP REPORT

MEETING NOTICE

The next general meeting of the North Coast will be held on Thursday Oct. 11, 1984 at 7:30p.m. SHARP!! At the North Olmsted Branch of the Cuyahoga County Library. SEE MAP FOR DETAILS

RAFFLE...

North Coast Amateur Radio Club will be holding a raffle at our October 11, 1984 meeting.

The prize will be a BIRD 43 WATTMETER w/ carrying case and a standard slug of the winners choice.

If you would like tickets (for yourself and/or to sell), please contact Rick K8SCI or Pauline KA8FOE.

FROM: Shirley KA8Y

I am interested in finding some Amateurs that would like to be Volunteer Examiners for Amateur Radio licensing. Interested parties must hold the ADVANCED or EXTRA Class License. If you would like more information please contact Shirley KA8Y Phone # 662-4307

EVENTS

PUBLIC SERVICE

WILLO RUN HORSE TRAILS
TWINSBURG, OHIO
October 14, 1984

DETAILS FORTHCOMING

etc...

UPCOMING ***NEWSFLASH***

Starting October 11, 1984 there will be at each and every meeting of North Coast a 50/50 drawing.

Hope to see you there and hope your a winner...

Dear North Coast Members:

In these changing times, the needs and direction of amateur radio clubs vary from club to club. In order to better serve the North Coast amateur community, we have enclosed a survey sheet containing a number of multiple choice questions. We ask that you take the time to complete the survey, and return as soon as possible. The results will be published in a future issue of the North Coast Communicator. When you are finished filling out the survey, fold it in half along the dotted line, then seal the corners with tape. A space is provided at the bottom of the survey sheet for your comments regarding club operation. Do you think a change is needed? Would you like to see the club try something different? If you have been looking for a way to get involved with the club, here's your chance.

Thanks & 73's

NCARC

NEW PHONE PRIVLEDGES ON THE H.F. BANDS

Effective September 1, 1984 the following Phone Band changes became operational;

80mtrs	15mtrs
EXTRA 3750-4000	EXTRA 21.200-21.450
ADVANCED 3775-4000	ADVANCED 21.225-21.450
GENERAL 3850-4000	GENERAL 21.300-21.450

10mtrs
ALL CLASSES 28.300-29.700

***** NCARC SURVEY 1984 *****

Check one answer for each question

Number of years licensed?

- ☐ 1 year or less
- ☐ 1-5 years
- ☐ 6-10 years
- ☐ 11-20 years
- ☐ 21 years and up

How many Hrs a week do devote to amateur radio?

- ☐ 0-1 Hr
- ☐ 2-5 Hrs
- ☐ 6-10 Hrs
- ☐ 11-20 Hrs
- ☐ 21 Hrs and up

Which bands do you use the most?

- ☐ 160-40 Meters
- ☐ 30-10 meters
- ☐ 6 Meters
- ☐ 2 Meters
- ☐ 220 MHz and up

Which mode do you use most?

- ☐ SSB
- ☐ CW
- ☐ FM
- ☐ RTTY
- ☐ Other

What do you think of our weekly code practice?

- ☐ Great
- ☐ Good
- ☐ Okay
- ☐ Don't like
- ☐ Don't listen

What do you think of the NCARC newsletter?

- ☐ Great
- ☐ Good
- ☐ Okay
- ☐ Don't read

Do you like to build your own equipment?

- ☐ YES
- ☐ NO

Do you own a home computer?

- ☐ YES
- ☐ NO

Have you ever used a P.C. in connection with amateur radio?

- ☐ YES
- ☐ NO

What do you think of contesting?

- ☐ Great
- ☐ Good
- ☐ Okay
- ☐ Don't like it
- ☐ Can't stand it

How many hours per week do you listen to the NCARC repeater?

- ☐ 0-3 Hrs
- ☐ 4-8 Hrs
- ☐ 9-15 Hrs
- ☐ 16-24 Hrs
- ☐ 25 Hrs and up

Would you approve of an open auto patch on the club repeater?

- ☐ YES
- ☐ NO

When is the best time for you to attend NCARC meetings?

- ☐ Weeknights
- ☐ Saturday afternoon
- ☐ Sunday afternoon

What do you think of field day?

- ☐ Great
- ☐ Good
- ☐ Okay
- ☐ Don't like it

What do you think of DXing?

- ☐ Great
- ☐ Good
- ☐ Okay
- ☐ Don't like it
- ☐ Despise it

COMMENTS:

NCARC SURVEY '84
P.O. Box 30529
Parma, Ohio 44130

stamp
here

RESONANT CIRCUITS

This will be the first in a series of articles on Resonant Circuits. All articles will be excerpts from the book "R F Circuit Design", written by a fellow ham, Chris Bowick (WD4C). The book is published by Howard Sams & Co. Verbal permission has been given for reprints.

The resonant circuit is certainly nothing new in Amateur Radio. Used in practically every transmitter, receiver, or piece of test equipment in existence, it selectively passes a frequency or group of frequencies from a source to a load while attenuating all other frequencies outside of this passband.

The ideal resonant circuit passband, as pictured in fig.1, would be rectangularly shaped, with infinite attenuation above and below the frequency band of interest. No attenuation would be introduced at the signal frequency. But the realization of this filter is, of course, impossible because of the physical characteristics of the components which make up the filter; because there is no such thing as a perfect component, there can be no perfect filter. However, understanding the mechanics of resonant circuits enables us to tailor an imperfect circuit to suit our needs.

Fig.2, a more realistic representation, shows what a practical filter response might resemble. Applicable definitions are presented below:

The bandwidth of any resonant circuit is commonly defined as the difference between the upper and lower frequency ($f_2 - f_1$) of the circuit at which its amplitude response is 3dB below the passband response. It is often called the half-power bandwidth. The ratio of the center frequency of the resonant circuit to its bandwidth is defined as the CIRCUIT Q.

$$Q = \frac{f_c}{f_2 - f_1}$$

This Q should not be confused with component Q which is defined as the ratio of a component's reactance (X) to its series resistance (R_s). While component Q does have an effect on circuit Q,

the reverse is not true; circuit Q is a measure of the selectivity of a resonant circuit. The higher its Q, the narrower its bandwidth, and thus, the higher its selectivity.

The SHAPE FACTOR of a resonant circuit is typically defined as the ratio of the 60 dB bandwidth of 3 MHz and a 6 dB bandwidth of 1.5MHz the shape factor is:

$$SF = \frac{3\text{MHz}}{1.5\text{MHz}} = 2$$

Shape factor is a measure of the steepness of the skirts; the smaller the number, the steeper the response. Notice that our perfect filter of fig.1 has a shape factor of 1, which is ultimate. The passband for a filter with a shape factor smaller than 1 would have to look similar to the one shown in fig. 3. Obviously, this is a physical impossibility.

ULTIMATE ATTENUATION, as the name implies, is the final minimum attenuation that the resonant circuit presents outside of the specified passband. A perfect resonant circuit would provide infinite attenuation outside of its passband. However, with real components, infinite attenuation is impossible to obtain. (Keep in mind that if the circuit presents response peaks outside the passband, as shown in fig.2, then this, of course, will detract from the ultimate attenuation specification of that resonant circuit.)

INSERTION LOSS occurs whenever a component or group of components is inserted between a generator and its load, and some of the signal from the generator is absorbed in those components as a resistive loss. The resulting attenuation, called insertion loss, a very important characteristic of resonant circuits, is usually expressed in decibels (dB).

RIPPLE, a measure of the flatness of the passband of a resonant circuit, is also expressed in dB. It is the difference between the maximum and the minimum attenuation in the passband.

(Note: Many times circuit Q is more critical than component Q. High component Q is necessary for critical components in a circuit to interact correctly; but for frequency response, many times a lower circuit Q will flatten response across a wider range.)

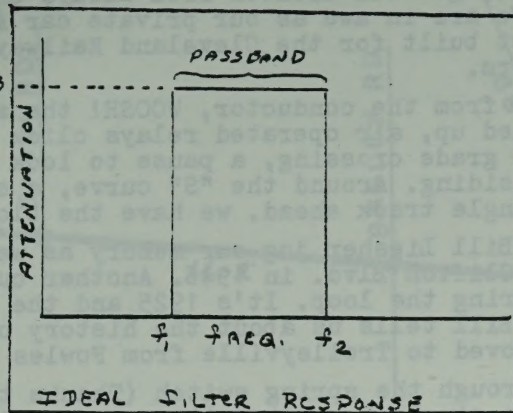


FIG 1

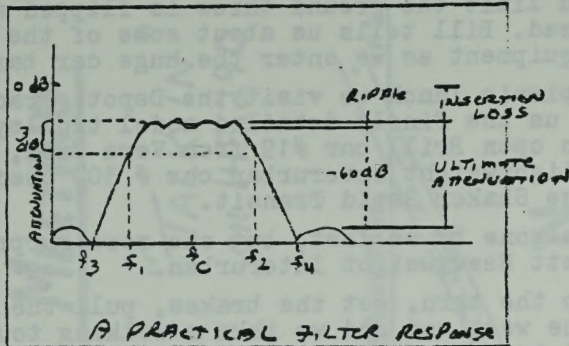


FIG 2

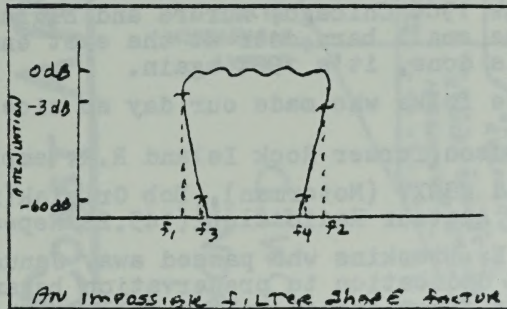


FIG 3

THURSDAY 7:30 P.M.

TROLLEYVILLE PICNIC A SUCCESS!

We hurry to get our tickets from always cheerful ticket agent Julie Stabb. We are in awe as our private car #1225, a 1913 Kuhlman Car Co. product built for the Cleveland Railway, is spotted at the station platform.

Two rings from the conductor, WOOSH! the air is released, the throttle notched up, air operated relays click as the years melt away. Over the grade crossing, a pause to look at the equipment stored on the siding. Around the "S" curve, a stop to set a flag out for the single track ahead. we have the block!

Our conductor Bill Liesher jog our memory as we roll along the tree lawns of Clifton Blvd. in 1946. Another curve, a grade crossing and we're entering the loop. It's 1925 and the wheels squeal on the guard rail as Bill tells us about the history of the Gazebo and the B & O Depot, moved to Trolleyville from Fowles Road in Berea.

SLAP...SLAP through the spring switch (Thanks to Freddy the Field Mouse) we're in single track territory again. Drifting back down Clifton, we slow a bit at the point to pick up the flag on the fly! At the yard limit the ground throw is flipped and we're lined for the yard lead. Bill tells us about some of the many, many pieces of traction equipment as we enter the huge car barn and workshop.

After our picnic lunch we visit the Depot; Frank Kellogg and John Burke show us the finely detailed model trolleys. We are treated to rides on an open Brill car #19 from Vera Cruz, Mexico and the 1924 St. Louis Lightweight Interurban car # 303 used on the Fox River Line and the Shaker Rapid Transit.

The day has gone by so fast, but one more surprise! A ride on #319 a 1914 Jewett Heavyweight Interurban.

Slowly into the barn, set the brakes, pull the kite, close the big doors at the west end and we take a walking tour of the barn. Now a final treat, we peek at the handiwork of Motorman/Head Carpenter Stan Smith. We see gold leaf and lots of brass being carefully uncovered in the 1906 Chicago, Aurora and Elgin, Niles Interurban car. We open the small barn door at the east end. Sadly the day is done, it's 1984 again.

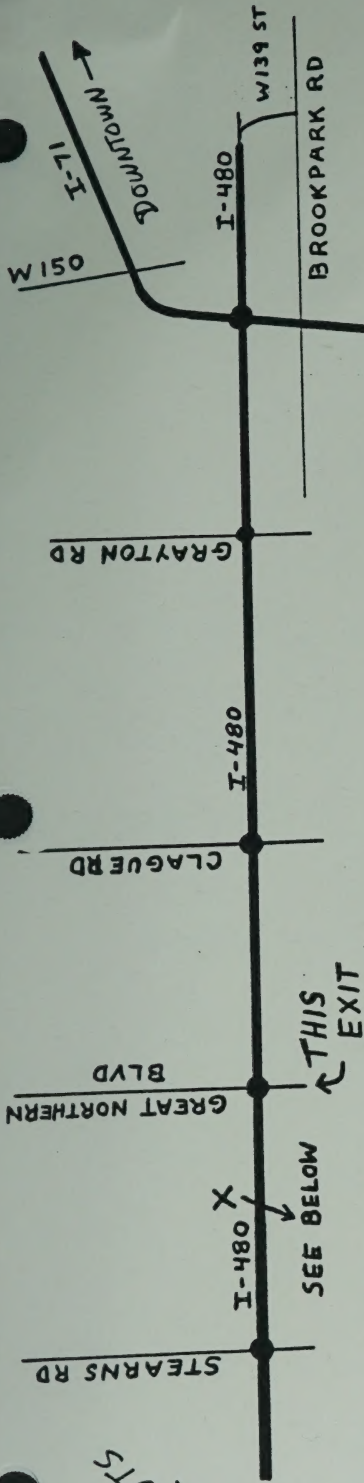
Some of the fine folks who made our day so nice not already mentioned are:

Mike Richardson(former Rock Island R.R. employee) KA8CEI

Jack Weyland N8CXV (Motorman), Bob Griglak(reservations) and the North Coast Amateur Radio Club (145.29 Repeater).

Mr. Gerald E. Brookins who passed away January 25, 1983. His love of traction and dedication to preservation began 30 years ago when Trolleyville was first opened to the public. Thanks to his wife Alice son Gary and grandson Mark, his dream goes on.

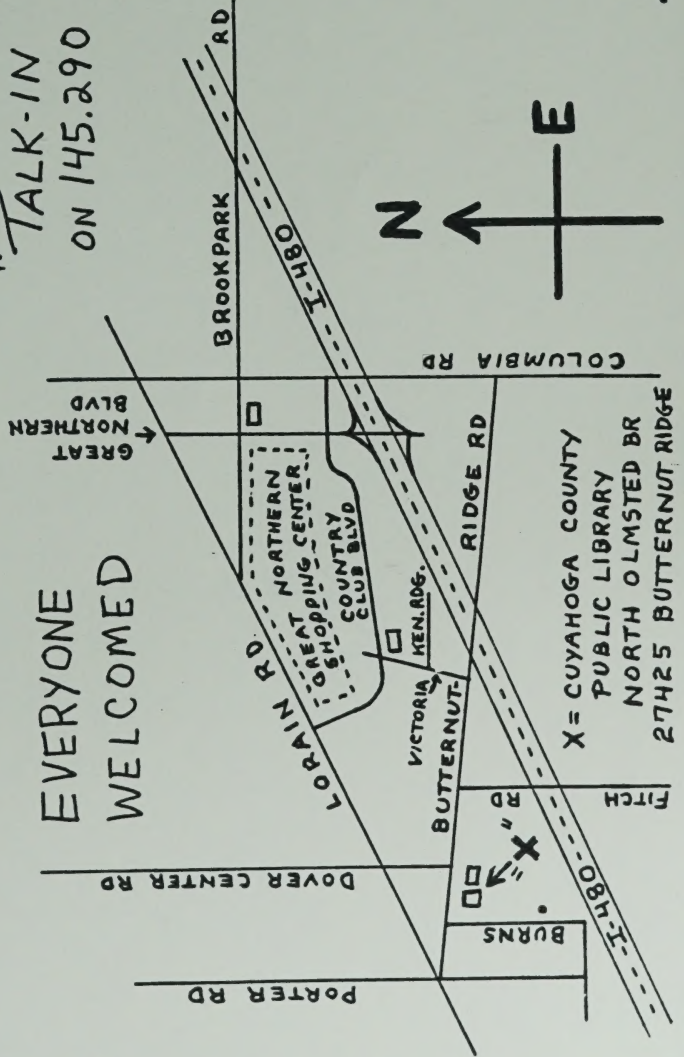
DE BOB N8FKT



NORTH COAST ARC MEETING

"TALK-IN"
ON 145.290

EVERYONE
WELCOMED



OCTOBER 11, 84

THURSDAY 7:30 P.M.

THURSDAY: 10:30 AM

OCTOBER 1924

WATER GATE

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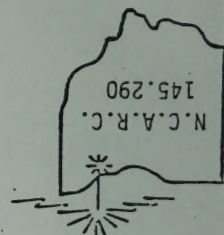
WATER GATE

WATER GATE

MERCOMED
ELEMAGE

WORTH COAST VBC MEETING

CONVENTION
CONVENT



NORTH COAST A.R.C.
P.O. BOX 30529
CLEVELAND, OHIO 44130

CQ OSCAR-10

By now you may have heard that strange sound on the 145.29 repeater. Slowly but surely, the Gateway Station is becoming stronger and closer to 100% of what I expected it to be. As of this writing, new antennas and coax were just installed and seem to be the answer to the minor problems that we were experiencing during our first attempts to link the repeater to that repeater out in space.

There are several things I would like to point out, though. First, while the Gateway is operating, if emergency traffic comes into the repeater input it will over-ride the auxiliary input. Stations wishing to use the Gateway need only to check-in to the frequency. As to what day and time we expect to have the Gateway in operation, Once we are satisfied that all aspects of our linking are in good reliable working order, and the best possible orbits have been tracked, the day and approximate times will be announced. Please check the Sunday Evening Nets or give me a call.

Dave NBETV